WASHINGTON PARK ARBORETUM PACIFIC CONNECTIONS GARDEN PROJECT

SEPA ENVIRONMENTAL CHECKLIST

Prepared for **April 19, 2007**

Seattle Parks and Recreation Department

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INTRODUCTION

This March 2007 State Environmental Policy Act (SEPA) Environmental Checklist has been prepared to identify potential environmental impacts resulting from the proposed improvements at the south entry of the Washington Park Arboretum (Arboretum), known as the Pacific Connections Garden project. The Final Environmental Impact Statement (2001) for the Arboretum Master Plan identified general impacts of the program for the entire Arboretum, including this project. This SEPA Checklist is specific to the Pacific Connections Garden project.

The Washington Park Arboretum, then known as the University of Washington Arboretum, began officially in 1934 when the University of Washington and the City of Seattle signed an agreement allowing the University to develop and manage an arboretum and botanical gardens in Washington Park. This agreement continues to serve as the Arboretum's mission of service to the people of the Northwest, through education, conservation and recreation. The 230-acre Arboretum contains over 4,400 species and cultivated varieties (10,000 plant acquisitions) on its grounds.

The Washington Park Arboretum is managed cooperatively by Seattle Parks and Recreation (Parks) and the University of Washington (UW). The Arboretum Foundation (Foundation) is its major support organization. The City of Seattle owns the Arboretum's land and buildings, Seattle Parks and Recreation maintains the park functions, and the University of Washington owns, maintains, and manages the plant collections and associated programs.

Seattle Parks and Recreation, the University of Washington and the Arboretum Foundation are undertaking an extensive program to improve the Washington Park Arboretum. *Renewing the Arboretum*, the Master Plan adopted by the City and Arboretum, identifies the planned improvements. The City and UW's respective roles at the Arboretum shape the recommendations presented in this strategy. The Pacific Connections Garden project would be the first major step to implement the Master Plan. After significant public involvement, Parks, the UW and Foundation chose this project because of its visibility and the ability to fulfill the primary elements of the master plan - conservation, education and recreation.

Parks, along with the UW and the Foundation is proposing to create a series of new botanical exhibits at the south end of the Washington Park Arboretum. The proposed improvements would modify the existing Arboretum plant collections and provide new plant exhibits, educational signs and trails. The project would relocate the existing collection of Holly trees from the project area to an area bounded by the eastern side of Lake Washington Boulevard and the western boundary of the Arboretum, and between East Interlaken Boulevard and Boyer Ave East. The project would also create five new botanic exhibits in approximately fifteen acres of the Arboretum. The botanic collections (geographic exhibits) would be composed of plants found in parts of other countries with a similar climate to the Puget Sound region.

The existing rockery at the intersection of Lake Washington Boulevard and Arboretum Drive would be uncovered and rehabilitated. New construction includes a 300 square-foot education shelter with a green roof, a 30-car parking lot, and a series of walking paths through and connecting the plant exhibits. The project would also provide irrigation to the new plantings.

Site access and automobile circulation would remain in the same locations as at present. The Master Plan calls for no increase in the number of parking spaces. At least 30 existing spaces would be removed during future work along Arboretum Drive. No additional lighting is proposed as part of the project. The proposed improvements would support new and existing research activities and would also encourage increased use for public recreation, supporting the Master Plan's goals for education, conservation and recreation.

TABLE OF CONTENTS

A. BACKGROUND

1. Name of proposed project, if applicable:

Washington Park Arboretum Pacific Connections Garden project

2. Name of applicant:

Seattle Parks and Recreation Department

3. Address and phone number of applicant and contact person:

Seattle Parks and Recreation Department
800 Maynard Avenue South, 3rd Floor
Seattle, WA 98134

Contacts: David Goldberg, Project Planner, (206) 684-8414

4. Date checklist prepared:

April 19, 2007

5. Agency requesting checklist:

The Seattle Parks and Recreation Department is the lead agency for compliance with the procedural requirements of the SEPA.

6. Proposed timing or schedule (including phasing, if applicable):

The first phase of construction is expected to begin in September 2007.

7. Do you have any plans for future additions, expansion, or further activity related to or connected with this proposal? If yes, explain.

This project is part of the Washington Park Arboretum Master Plan, *Renewing the Arboretum*. The geographic plant exhibits would be collections of plant species found in other countries with climates similar to the Puget Sound region. The exhibits are expected to be implemented individually over a period of seven to ten years, and are part of the implementation of the Arboretum Master Plan.

Although the implementation of the Pacific Connections Garden project would be phased, there are no plans for future additions, expansion, or further activity in connection with this specific project. The portion of the proposed multi-use trail that runs through the Pacific Connections site would be partially graded to allow for the proper landforms and drainage associated with this project. Construction of the trail would be completed under a separate project.

8. List any environmental information you know about that has been prepared, or will be prepared, directly related to this proposal.

- *Final Environmental Impact Statement(FEIS) – Washington Park Arboretum Master Plan*. Prepared by Seattle Parks and Recreation on January, 2001.

This environmental checklist provides project-specific information to supplement programmatic information found in the FEIS.

- *Washington Park Arboretum Historic Resources Strategy*. Prepared by Cathy Wickwire for Seattle Parks and Recreation on July 10, 2006 (Appendix B).

9. Do you know whether applications are pending for governmental approvals of other proposals directly affecting the property covered by your proposal? If yes, explain.

No other proposals or applications are known to be pending for the subject property.

10. List any government approvals or permits that will be needed for your proposal, if known.

The project would be required to pass through several administrative reviews and approvals from Parks and the UW. These reviews consider the design document's progress at meeting the project objectives and applicable agency standards. No formal government approvals or permits are required for this proposal. Parks follows all applicable City Codes although land use permits are not required. Building permits would be required from the City of Seattle, and obtained by the contractor, for elements such as electrical installation.

11. Give brief, complete description of your proposal, including the proposed uses and the size of the project. There are several questions later in this checklist that ask you to describe certain aspects of your proposal. You do not need to repeat those answers on this page. (Lead agencies may modify this form to include additional specific information on project description.)

The project area is defined as approximately 15 acres at the south end of the Washington Park Arboretum (the Pacific Connections site), as shown on Figure 1, and approximately 3.8 acres located to the west of E. Lake Washington Boulevard, between E. Interlaken Boulevard and Boyer Street E. (the Holly relocation site). The project site is defined as the area of construction limits, as shown on Figure 2.

The project consists of the phased development of the following elements:

- Five new eco-geographic botanical collections, containing plant species from other countries with climates similar to the Puget Sound region;
- A porous-concrete paved parking lot for 30 cars;

- A grass meadow with an open-walled interpretive shelter, covered with a green roof;
- Freestanding interpretive signs;
- Crushed-stone pedestrian pathways;
- Small (under 3 feet tall) retaining walls support pathways traversing the slopes; and
- Stone stairways to connect paths.
- Relocating the Holly collection, a botanical exhibit of Holly trees and shrubs, from its current location in the project area to an area along the west side of E. Lake Washington Boulevard, between E. Interlaken Boulevard and Boyer Street E, to accommodate the new eco-geographic botanical collections;

The proposed project is the first major element in the approved Arboretum Master Plan. It involves the establishment of botanical exhibits displaying plants from five geographic regions.

The project would retain site access as it currently exists. A new 30-car parking lot would be created to allow for the elimination of parking stalls as part of this project and the future elimination of parking areas along Arboretum Drive. No additional lighting is proposed as part of the project. Additional on-site improvements would include an irrigation system and below ground stormwater drainage if needed to meet code requirements.

To construct the new Pacific Connections Garden botanical exhibits, 550 existing trees will be removed. Most of these are big leaf maples that have a relatively short lifespan and would not be compatible with the new exhibits. Many of the healthy conifers would be retained. The new Holly exhibit would require the removal of 55-65 trees. The trees are removed to make room for botanical exhibits that reflect the trees, shrubs and understory found in the represented geographic areas.

The UW's approach to tree management differs from the Mayor's 2 for 1 replacement policy in that each newly planted tree is provided with a high standard of care that translates to a higher rate of survival. Moreover, on the very rare occasion when a newly planted tree does happen to fail, it is promptly replaced.

The removed trees would be replaced by plantings that will create a balance of trees and associated canopy, open areas for light and circulation, understory and ground covers necessary to create optimal habitat, and public educational opportunities. The removed trees in the Pacific Connections Garden would be replaced with approximately 487 new trees, 456 new shrubs, and 98,546 new groundcover plants. New plants for the exhibits would be collected and propagated prior to removing existing vegetation. Removal and re-vegetation would be coordinated to limit the amount of vegetation impacted at a given time.

To reduce the impact of changing the vegetative displays and educational/research species, the removal would occur over a 7 to 10 year period.

The removed trees at the Holly exhibit would be replaced by up to 120 Holly species. The UW will also be planting native shrubs and ground covers between and around the Holly collection. A number of larch trees will be added over time to provide another evergreen that is compatible with the Holly collection.

Additional information can be found in the *Schematic Design for South Entry/Madrona Terrace*, a design report prepared by The Portico Group on February 2, 2005 (Appendix A).

12. Location of the proposal. Give sufficient information for a person to understand the precise location of your proposed project, including a street address, if any, and section, township, and range, if known. If a proposal would occur over a range of area, provide the range or boundaries of the site(s). Provide a legal description, site plan, vicinity map, and topographic map, if reasonably available. While you should submit any plans required by the agency, you are not required to duplicate maps or detailed plans submitted with any permit applications related to this checklist.

The Arboretum is managed cooperatively by Seattle Parks and Recreation and the University of Washington. The City of Seattle owns nearly all of the Arboretum's land and buildings, Seattle Parks and Recreation maintains the park functions, and the University of Washington owns, maintains, and manages the plant collections and associated programs. The Pacific Connections Garden project site is located at the southeast end of the Washington Park Arboretum in Seattle. As shown in Figure 1, the project site is triangular shaped and bounded by East Lake Washington Boulevard to the west and south. The Broadmoor Country Club is adjacent to the east side of the site. The existing overlook and gazebo mark the northern edge of the project site, which blends into existing Arboretum collections. Arboretum Drive East extends through the east side of the site in a north-south direction. Figure 2 provides a proposed site plan and highlights area roadways.

The existing Holly collection would be relocated to an area along the western side of East Lake Washington Boulevard between East Interlaken Boulevard and Boyer Ave East.

B. ENVIRONMENTAL ELEMENTS

1. Earth

a. General description of the site (underline one):

Flat, rolling, hilly, steep slopes, mountainous,
other:_____

b. What is the steepest slope on the site (approximate percent slope)?

The site is hilly with some steep slopes (over forty percent slope) at the far south end. The site generally slopes downward to the south and to the west at an approximately twenty percent slope. Overall relief is 70 feet in the north-south direction. From east to west, the overall relief is 90 feet. (Milbor-Pita, Inc., 2006).

c. What general types of soils are found on the site (for example, clay, sand, gravel, peat, muck)? If you know the classification of agricultural soils, specify them and note any prime farmland.

Soil borings conducted by Milbor-Pita, Inc. revealed that subsurface conditions consist of glacial till and advance outwash deposits. The glacial till unit consists of dense to very dense, poorly sorted, non-stratified mixture of clay, silt, sand, gravel, cobbles, and occasional boulders. The *Geotechnical Engineering Report* prepared for The Portico Group, attached as Appendix C, provides further details about on-site soils. (Milbor-Pita, Inc., 2006).

d. Are there surface indications or history of unstable soils in the immediate vicinity? If so, describe.

According to the City of Seattle GIS Web database, portions of the project site fall within a designated Environmentally Critical Area for steep (greater than 40%) slopes. Slopes of 40% or greater occur within the southern portion of the project site (City of Seattle, 2005). There are no surface indications of unstable soils in the immediate vicinity (Milbor-Pita, Inc., 2006). There are no potential or known landslide hazard areas in the project site (City of Seattle GIS, 2007). The Holly relocation area is within an environmentally critical area for liquefaction.

e. Describe the purpose, type, and approximate quantities of any filling or grading proposed. Indicate source of fill.

The Pacific Connection project may require the export of on-site material. Portions of the excavated soil would be reused on-site. Various materials that would be imported include: 900 cy of permeable rock base for the porous concrete, 1,800 cy of mulch for planting soil amendments, and 2,000 cy of mulch for plant top dressing. The Holly relocation would balance materials on site.

f. Could erosion occur as a result of clearing, construction, or use? If so, generally describe.

Erosion could occur during construction of the shelter, trails and parking area, particularly during wet weather and on the steeper slopes. The on-site soils are moisture sensitive and could degrade after traversing with construction equipment in wet conditions Milbor-Pita, Inc., 2006). Temporary erosion and sedimentation control Best Management Practices (BMPs) will be implemented.

g. About what percent of the site will be covered with impervious surfaces after project construction (for example, asphalt or buildings)?

The proposed project would result in a 2,500 square feet (sf) increase in impervious surface for the asphalt approaches to the parking lot. All paths would be surfaced with crushed rock, an impervious surface. The proposed 30-stall parking lot would be paved with 9,000 sf of porous (pervious) concrete, and the 300 sf shelter would have a green-roof system. A green roof is a vegetated, covered rooftop that captures most of the precipitation that falls on its surface. Less than one percent of the project site would be covered with impervious surfaces.

h. Proposed measures to reduce or control erosion, or other impacts to the earth, if any:

Temporary erosion and sedimentation control Best Management Practices (BMPs) and construction water quality treatment measures would be installed to minimize erosion and treat stormwater runoff during construction. The BMPs that are anticipated to be used for construction of this project include a temporary rock construction entrance to the project site, catch basin filters, interceptor swales, sediment traps, and appropriate cover measures for exposed soils. Seattle Parks would specify BMPs specific to the site and project in the construction contract documents, and the construction contractor would be required to implement them. Appendix H lists appropriate BMP measures that could be used at the project site to minimize erosion potential.

All excavation, filling and grading operations would be conducted in accordance with the City of Seattle Development Regulations (SMC Title 22 – Building and Construction Codes, including Grading and Drainage requirements).

Areas not developed as paths, grass or structures would be replanted with a mix of trees, plant exhibit collections and native plants. In many cases, existing trees and vegetation would be retained to provide cover for the establishment of the new collections. Planting operations would follow procedures outlined in the *UW Botanical Garden (UWBG) Planting Procedures*.

2. Air

a. What type of emissions to the air would result from the proposal (i.e., dust, automobile, odors, industrial wood smoke) during construction and when the project is completed? If any, generally describe and give approximate quantities if known.

During construction, there may be a small increase (approximate quantities are unknown) in exhaust emissions from construction vehicles and equipment and a temporary increase in fugitive dust due to earthwork. No additional increase in automobile use is anticipated as a direct result of this project.

b. Are there any off-site sources of emissions or odor that may affect your proposal? If so, generally describe.

No off-site sources of emissions or odors would affect this proposal.

c. Proposed measures to reduce or control emissions or other impacts to air, if any:

Plants and materials that are to be removed or transplanted from the site would be removed and new materials would be placed on-site as soon as possible, eliminating the need to stockpile materials. This would reduce the opportunity for fugitive dust to leave the site and affect nearby residences. If necessary, a water truck and on-site irrigation would be available to spray dusty areas that could potentially release airborne particles.

In addition, the contractor would be required to comply with the Puget Sound Clean Air Agency's (PSCAA) Regulation I, Section 9.15, which requires reasonable precautions to avoid dust emissions and Regulation I, Section 9.11 requiring the best available measures to control emissions of odor-bearing contaminants. The contractor would also be required to comply with recommendations in the Washington Associated General Contractor brochure "Guide to Handling Fugitive Dust from Construction Projects." Appendix H lists additional mitigation measures that could be used to minimize air quality impacts during construction.

3. Water

a. Surface:

1) Is there any surface water body on or in the immediate vicinity of the site (including year-round and seasonal streams, saltwater, lakes, ponds, wetlands)? If yes, describe type and provide names. If appropriate, state what stream or river it flows into.

Arboretum Creek, at the west side of the project site, flows north until emptying into Duck Bay along the Lake Washington shoreline. Arboretum Creek drains much of the Arboretum property, and is fed by seeps and surface runoff from adjacent hillsides. The pond in the nearby Japanese Garden is considered the headwaters of Arboretum Creek (City of Seattle Parks and Recreation, 2001). The pond is supplemented by city water during dry periods to maintain the headwaters as well as the waterfall at the Japanese Garden. The creek enters the project site from a culvert under Lake Washington Boulevard and flows north, parallel to the east shoulder of the road. There is a wetland along the property line with Broadmoor Golf Club. This was delineated and mapped by Parks during the master plan and shown in the EIS.

2) **Will the project require any work over, in, or adjacent to (within 200 feet) the described waters? If yes, please describe and attach available plans.**

Some grading for a proposed future trail would be within 200 feet of Arboretum Creek or the stream riparian area and wetland. The Arboretum Creek crosses under Lake Washington Boulevard in culverts from a point within the Japanese Garden Holly to a point south of Azalea Way. The Holly collection would be 165 feet, at its nearest point, from the portion of the Creek in the Japanese Garden. The parking lot, and collections and pathways associated with the Australia collection are within 200 feet of the Broadmoor wetland.

3) **Estimate the amount of fill and dredge material that would be placed in or removed from surface water or wetlands and indicate the area of the site that would be affected. Indicate the source of fill material.**

No grading is proposed within wetlands or surface water bodies.

4) **Will the proposal require surface water withdrawals or diversions? Give general description, purpose, and approximate quantities if known.**

The project would not require surface water withdrawals or diversions.

5) **Does the proposal lie within a 100-year floodplain? If so, note location on the site plan.**

The site does not lie within a 100-year floodplain.

6) **Does the proposal involve any discharges of waste materials to surface waters? If so, describe the type of waste and anticipated volume of discharge.**

No discharges of waste material to surface waters are proposed.

b. Ground:

1) **Will ground water be withdrawn, or will water be discharged to ground water? Give general description, purpose, and approximate quantities if known.**

Soil borings conducted by Milbor-Pita, Inc. revealed no significant groundwater seepage. Moist to wet soils were observed in certain

locations. (Milbor-Pita, Inc., 2006). No ground water would be withdrawn nor would any water be discharged to groundwater for this project. Dewatering the site is not anticipated.

2) **Describe waste material that will be discharged into the ground from septic tanks or other sources, if any (for example: domestic sewage; industrial, containing the following chemicals... agricultural; etc.). Describe the general size of the system, the number of such systems, the number of houses to be served (if applicable), or the number of animals or humans the system(s) are expected to serve.**

No waste material would be discharged into the ground.

c. Water Runoff (including storm water):

1) **Describe the source of runoff (including storm water) and method of collection and disposal, if any (include quantities, if known). Where will this water flow? Will this water flow into other waters? If so, describe.**

Stormwater would be managed according to "low impact development" (LID) best management practices (BMPs). These practices aim to restore the natural hydrologic balance of the site by maximizing use of infiltration capacities in the soil. Stormwater would be dispersed rather than collected and concentrated. Runoff would include stormwater overflow from the porous concrete parking lot underdrains and from the crushed rock paths. This water would flow into areas of compost-amended soil for infiltration into native soil.

The 300 sq. ft. education shelter would incorporate a green roof to absorb rainwater and slow any runoff, allowing for on-site infiltration.

2) **Could waste materials enter ground or surface waters? If so, generally describe.**

Sediment generated during construction could enter ground water systems; however, BMPs (i.e. installation of temporary compost filter berms and a temporary sedimentation pond) could be implemented to minimize sedimentation leaving the site.

d. Proposed measures to reduce or control surface, ground, and runoff water impacts, if any:

During construction, BMPs in accordance with City of Seattle standards would be implemented to ensure that sediment originating from disturbed soils would be retained within the limits of disturbance. Appendix H lists appropriate BMP measures that could be used at the project site to minimize erosion potential.

4. Plants

a. Check or circle types of vegetation found on the site:

_X deciduous tree: alder, maple, other
_X evergreen tree: Douglas fir, western red cedar, pine, other
_X shrubs
_X grass
__ pasture
__ crop or grain
_X_ wet soil plants: cattail, buttercup, bulrush, skunk cabbage, other
__ water plants: water lily, eelgrass, milfoil, other
_X other types of vegetation (The UW collections)

b. What kind and amount of vegetation will be removed or altered?

The project would create botanical exhibits displaying plants from five foreign country geographic regions within an area of the arboretum that is currently forested. The Pacific Connections area contains approximately 1,156 trees (according to the survey information), many of which are part of UW collections. The rest are native trees and shrubs termed "native matrix." During early design, Arboretum and Parks staff conducted an evaluation of existing native matrix trees according to the UW's *Specimen Evaluation Criteria* (Appendix D). The strength of the living plant collection at the Washington Park Arboretum is directly linked to the value of each individual specimen. For the purposes of assessing specimen value, the following criteria have been developed. These criteria form the basis of all specimen assessments and each recommendation to retain or remove a specimen is determined against these criteria.

1. Relevance to and compatibility with the goals of the Washington Park Arboretum Master Plan;
2. Source quality of the specimen under consideration;
3. Uniqueness – degree to which the taxonomic classification of the specimen under consideration is represented by other specimens;
4. Source quality of other specimens of the same taxonomic classification as the specimen under consideration;
5. Health; and
6. Form – representative of taxonomic classification and safety/stability.

In addition to assessing the collection, UW staff assessed the "native matrix" (conifer and madrone trees only) using the criteria: age, longevity, condition, and percent of live crown ratio. Recommendations were based on these factors as to keep, remove and/or monitor. The assessment, indicating trees to be retained and trees to be removed, is recorded on a survey of the site.

The UW's approach to tree management differs from the Executive Order 03-05, the Mayor's 2 for 1 replacement policy, in an important way. Each new tree is one of known wild provenance and of scientific value. In the Arboretum each newly planted tree is provided with a high standard of care. Such care translates to a very high rate of survival. Moreover, on the very rare occasion when a newly planted tree does happen to fail, it is promptly replaced.

The UW Curation Committee worked with a design consultant to develop plans for new collections that considered the results of the assessment. Consequently a number of important trees that can fit within the new exhibits, or cannot be moved or propagated, are retained on site. To meet the Master Plan objective and accomplish the project, approximately 550 trees would be removed and/or replaced by the new collection. The trees to be removed include "native matrix" forest that consists of trees, shrubs and ground covers that are largely self-seeded. The balance of vegetation is UW collections that encompass a range of species, including the Holly plant collection. Portions of the Holly collection would be relocated to an area on the west side of Lake Washington Blvd. between Interlaken Blvd. and Boyer St.

Until the new plantings mature, the existing native matrix forest would be more open and would have increased vertical stratification, or tree crowns at differing heights off the ground.

Removal and replacement would occur in phases as construction funds and new plant collections are available and acquired. The first phase of construction would remove approximately 95 trees for construction of the Meadow and part of the Cascadia plant exhibit. Future phases could be expected to remove similar numbers of trees.

The cool, moist and mild climate of Seattle makes it ideal for developing a nationally recognized Holly collection. It has been estimated that 120 *Ilex* (Holly) species can be grown here, more than in any other part of the country. The goals for the Arboretum Holly collection call for 1) a collection of all species hardy in Seattle, 2) obtained from documented, wild-collected material, and 3) with each species represented by at least one male and two female plants.

The existing collection contains a number of species from each geographic area. The design of the Holly collections arranges the collection according to geographic origin. Approximately 112 Holly plants from the Pacific Connections area would be relocated to the new site. The initial plantings would be augmented with species collected over the next few years. This means that in order to

transplant the existing collection, much of the new area would need to be cleared and prepared for planting. To relocate and enhance the Holly collection, between 55 and 65 trees would be removed from the project area. Approximately 10-15 fir and cedar trees would be retained. Over time the UW will add an unspecified number or *larix* (Larch) trees as part of their collection to provide another evergreen tree that is compatible with the Holly collection. The UW will also plant much or the area around and between collections with a mix of native shrubs and ground cover.

c. List threatened or endangered species known to be on or near the site.

No known native threatened or endangered species are documented on the site.

d. Proposed landscaping, use of native plants, or other measures to preserve or enhance vegetation on the site, if any:

The UW manages its plant collections for survival of optimum stand densities according to the *Washington Park Arboretum Collections Policy* (2005), Appendix E. The project would enhance vegetation by creating botanical exhibits that provide educational opportunities for the public to learn more about plants native to ecosystems with similar climates to the Puget Sound region. Many of the removed trees are big leaf maples that have a relatively short lifespan. The native matrix would be incorporated by retaining existing trees where practicable. Approximately 484 existing trees (mostly firs and, cedars and UW collection that cannot be moved of propagated) would be protected and preserved. New botanical exhibits would include approximately 487 new trees, 456 new shrubs, and 98,546 new groundcover plants. This composition would create a balance of trees and associated canopy, open areas for light and circulation, understory and ground covers necessary to create optimal habitat, and public educational opportunities. New plants for the exhibits would be collected and propagated prior to removing existing vegetation. Removal and re-vegetation would be coordinated to limit the amount of vegetation impacted at a given time.

To reduce the impact of changing the vegetative displays and educational/research species, the removal would occur over a 7 to 10 year period. Phase I would consist of moving the Holly Collection and construction of the Meadow and part of the Cascadia plant exhibit, which would result in the removal or relocation of approximately 95 trees. The meadow retains approximately 14 trees including several species from the Holly collection that cannot be relocated. The Cascadia Plant exhibit would include trees, shrubs and ground cover native to the Pacific Northwest.

The UW and Parks have coordinated in developing a management plan for the arboretum, a combination of the Master Plan objectives and the horticultural objectives of the UW for their collections. The *Specimen Evaluation Criteria* used to create the Pacific Connections Specimen Assessment, the planting plans developed during the construction documents phase, and the UW *Washington*

Park Arboretum Collections Policy (2005) would serve as the vegetation management plan.

Additionally, the UW and Parks would coordinate construction details and specifications to integrate the UW planting procedures and Parks procedures contained in the Tree Management, Maintenance, Pruning and Removal policy to develop Best Management Practices (BMPs) that would guide tree removal and planting. Newly planted collections would be planted according to BMPs that ensure tree health and the integrity of the collections. Certified arboricultural services would review the BMPs for construction. Where necessary, "low impact construction zones" (that employ mitigations such as light weight construction equipment, air spading, etc.) would be employed to avoid impacts in especially sensitive areas.

New collections would be planted while immature in order to best acclimate to the site. Planting would occur in accordance with the UW Botanical Garden's Planting Procedures, Appendix G.

The project would be phased to reduce the impact of vegetation loss. The first phase of work would be the relocation of the Holly collection. The second phase would be the construction of the meadow and pathways toward the south. Future phasing over the next 7-10 years would depend on funding, plant and tree availability, and seasonal planting restrictions.

5. Animals

a. Underline any birds and animals that have been observed on or near the site or are known to be on or near the site:

birds: hawk, heron, eagle, songbirds, other: Mallard, Common Crow, Anna's Hummingbird, Winter Wren, Black-capped Chickadee, Spotted Towhee, Orange-crowned Warbler, American Robin, Varied Thrush

mammals: deer, bear, elk, beaver, other: Eastern Gray Squirrel

fish: bass, salmon, trout, herring, shellfish, other: None

b. List any threatened or endangered species known to be on or near the site.

A search of the 2006 Washington State Department of Fish and Wildlife Priority Habitats and Species (PHS) database indicated that no threatened or endangered species are known to be on or near the site. An eagle's nest is located near the Graham Visitor Center at the far northern end of the Arboretum, and another is located at the northern end of the Broadmoor golf course. Bald Eagles use the site for perching.

c. Is the site part of a migration route? If so, explain.

Washington State is located within the Pacific Flyway, which is a flight corridor for migrating waterfowl and other avian fauna. The Pacific Flyway extends south from Alaska to Mexico and South America. Migratory waterfowl use the open water, wetlands and upland areas of the Arboretum for resting and feeding during their spring and fall migrations.

Lake Washington is a migration route for anadromous salmonids. The wetland areas of the Arboretum are used by out-migrating juvenile salmonids for resting and feeding. The site is not in the vicinity of the lake or wetland areas.

d. Proposed measures to preserve or enhance wildlife, if any:

The proposed project would preserve and protect approximately 484 existing trees. New botanical exhibits would include approximately 487 new trees, 456 new shrubs, and 98,546 new groundcover plants. Most of the retained trees would be conifers. New vegetation for the exhibits would be collected and propagated prior to removing existing vegetation. To reduce the impact of the loss of vegetation the project would be phased. The first phase of work is the relocation of the Holly collection. The second phase would be the construction of the meadow and pathways toward the south. The future phasing would depend on funding and plant and tree availability and seasonal planting restrictions.

Within each phase of work, removal and re-vegetation would be coordinated to limit the vegetation removed at a given time. New plants would provide a greater diversity of canopy and under-story, thereby providing a range of habitat value.

6. Energy and Natural Resources

a. What kinds of energy (electric, natural gas, oil, wood stove, solar) will be used to meet the completed project's energy needs? Describe whether it will be used for heating, manufacturing, etc.

During construction, gasoline and diesel powered equipment would be used. The completed project would not require additional energy sources.

b. Would your project affect the potential use of solar energy by adjacent properties? If so, generally describe.

The proposal would not permanently affect the potential use of solar energy by adjacent properties.

c. What kinds of energy conservation features are included in the plans of this proposal? List other proposed measures to reduce or control energy impacts, if any:

Low impact development (LID) stormwater features are included as part of this project proposal. These features would allow more storm runoff to infiltrate into

native soil and reduce the need for stormwater catch basins and pipes. LID elements would include porous parking lot paving and a green-roof on the shelter.

7. Environmental Health

a. Are there any environmental health hazards, including exposure to toxic chemicals, risk of fire and explosion, spill, or hazardous waste that could occur as a result of this proposal? If so, describe.

No environmental health hazards are expected to occur as a result of this proposal.

1) Describe special emergency services that might be required.

None.

2) Proposed measures to reduce or control environmental health hazards, if any:

None.

b. Noise

1) What types of noise exist in the area which may affect your project (for example: traffic, equipment operation, other)?

Traffic noise from East Lake Washington Boulevard adversely affects the project area, especially during the A.M. and P.M. commute hours. This noise affects many areas of the Arboretum.

2) What types and levels of noise would be created by or associated with the project on a short-term or a long-term basis (for example: traffic, construction, operation, other)? Indicate what hours noise would come from site.

Short-term noise impacts to Arboretum users could result from construction vehicles and equipment during daylight hours. Construction activities would comply with the following noise standards established in the Seattle Municipal Code (SMC):

> Maximum permissible sound levels established in the SMC may be exceeded by construction activities between 7:00 a.m. and 10:00 p.m. on weekdays and between the hours of 9:00 a.m. and 10:00 p.m. on weekends. Maximum permissible sound levels in residential communities are not to exceed 55 dB(A)s. However, construction activities

are permitted to exceed the established maximum level by 25 dB(A) (SMC 25.08.425).

Consolidating the existing small parking lots into the 30-stall parking lot would concentrate and could increase vehicle noise to the project area. An expected concentration in visitors using the educational shelter would result in general increases in human noise in that area. Nearby residences are more than 500 feet from the project site.

3) Proposed measures to reduce or control noise impacts, if any:

Construction activities would be restricted to hours designated by the Seattle Noise Control Ordinance (SMC 25.08.425). If construction activities exceed permitted noise levels, the Parks Department would instruct the contractor to implement measures to reduce noise impacts to comply with the Noise Ordinance, which may include additional muffling of equipment.

8. Land and Shoreline Use

a. What is the current use of the site and adjacent properties?

The Pacific Connections site is currently an underutilized botanical display area that includes native forest matrix with scattered plant collections and walking paths. Portions of the area are degraded due to the presence of significant amounts of invasive plant material. The site for the Holly relocation is also an underutilized botanical display area that include native forest matrix with scattered plant collections.

b. Has the site been used for agriculture? If so, describe.

The site has not been previously used for agriculture. The site was logged in the early 20th century.

c. Describe any structures on the site.

There are no existing structures on the site. Portions of the Holmdahl Rockery (dry-laid stone walls) remain at the intersection of Lake Washington Boulevard and Arboretum Drive.

d. Will any structures be demolished? If so, what?

No structures would be demolished.

e. What is the current zoning classification of the site?

Seattle's Land Use code has no separate park or open-space zone. The zoning of the entire Arboretum is Residential Single Family, with a minimum lot area of 7,200 square feet (SF 7200) (City of Seattle DPD, 2005).

f. What is the current comprehensive plan designation of the site?

The Arboretum is not located within any defined urban center, urban village, residential urban village, or other area specifically designated by the comprehensive plan. The City of Seattle Future Land Use Map from Seattle's 2006 Comprehensive Plan identifies the Arboretum area, including the project site, as City Owned Open Space.

The open space network section of the comprehensive plan focuses on supporting both passive and active uses of open space and generally enhancing open space throughout the city.

g. If applicable, what is the current shoreline master program designation of the site?

The project site is not within a shoreline jurisdiction; therefore, there is no applicable shoreline master program designation.

h. Has any part of the site been classified as an "environmentally critical" area? If so, specify.

According to the City of Seattle GIS database, scattered parts of the southern portion of the project site has been designated as steep slope, and much of the site is designated as wildlife habitat. A part of the northwest portion of the site is designated as riparian corridor. (City of Seattle, 2005).

i. Approximately how many people would reside or work in the completed project?

No persons would reside in the completed project. Parks and Arboretum staff would visit to conduct maintenance and educational activities.

j. Approximately how many people would the completed project displace?

The project would not displace any people.

k. Proposed measures to avoid or reduce displacement impacts, if any:

Does not apply.

l. Proposed measures to ensure the proposal is compatible with existing and projected land uses and plans, if any:

Parks are an allowed use within Single-family zoned areas. The Washington Park Arboretum currently accommodates passive recreation, botanical research and plant display gardens. The proposed improvements would support some new academic research and educational activities and would encourage increased use for public recreation.

9. Housing

a. Approximately how many units would be provided, if any? Indicate whether high, middle, or low-income housing.

No housing units would be provided.

b. Approximately how many units, if any, would be eliminated? Indicate whether high, middle, or low-income housing.

No housing units would be eliminated.

c. Proposed measures to reduce or control housing impacts, if any:

Housing impacts would not result from the project; therefore mitigation measures to control housing impacts would not be implemented.

10. Aesthetics

a. What is the tallest height of any proposed structure(s), not including antennas; what is the principal exterior building material(s) proposed?

The interpretive shelter would extend approximately 17 feet in height and would be the tallest structure installed at the project site. The shelter is open-walled with a green roof. Interpretive signs on metal panels may be affixed to wood shelter posts.

b. What views in the immediate vicinity would be altered or obstructed?

No views in the immediate vicinity would be obstructed. New views would be created from the education shelter and the overlook in the Cascadia exhibit. The area for the relocated Holly collection would also provide views toward Azalea Way and Arboretum Creek. Views of the native matrix tree canopy into the site would include more distant and open panoramas from the Japanese Garden and along roadways. Views would include more vegetative diversity in color, scale and structure as the botanical collection plants matured.

c. Proposed measures to reduce or control aesthetic impacts, if any:

The Pacific Connection Garden design would provide a positive aesthetic, as well as educational and recreational experiences. The shelter would be of wood construction and low in scale to fit into the setting of the arboretum. The green

roof would help integrate the structure into the naturalistic park setting. The Holmdahl Rockery would be uncovered and rehabilitated.

New vegetation for the exhibits would be collected and propagated prior to removing existing vegetation. Removal and re-vegetation would be phased and coordinated to limit the amount of vegetation impacted at a given time. Many of the existing conifer trees would be retained.

11. Light and Glare

a. What type of light or glare will the proposal produce? What time of day would it mainly occur?

No new lighting is proposed for the project site; therefore, no additional light and glare is expected as a result of the project.

b. Could light or glare from the finished project be a safety hazard or interfere with views?

Because no new lighting is proposed as part of the project, the proposal would not pose a safety hazard or interfere with views.

c. What existing off-site sources of light or glare may affect your proposal?

No existing off-site sources of light or glare would affect the proposal.

d. Proposed measures to reduce or control light and glare impacts, if any:

Does not apply.

12. Recreation

a. What designated and informal recreational opportunities are in the immediate vicinity?

The Arboretum is heavily used with numerous public display gardens and walking paths throughout a naturalistic setting. The Arboretum is used for scientific botanical research by the University of Washington as well as passive recreation by the public.

Numerous trails provide access to the Arboretum plant collections and grounds. These trails and the Arboretum's open spaces are used for walking, jogging, bird watching, picnicking, boating, fishing, educational tours, weddings and other gatherings, and a variety of other outdoor activities.

Other facilities include the Japanese Garden, the Washington Park playfield, and the nearby (private) Broadmoor Country Club. The Japanese Garden consists of a traditional Japanese stroll garden in a pond setting. An admission fee is required.

The Japanese garden also hosts several events and ceremonies throughout the year. The Washington Park playfield, which is not managed as part of the Arboretum, is used extensively throughout the summer, fall, and spring. The Broadmoor golf course is part of a private membership country club.

b. Would the proposed project displace any existing recreational uses? If so, describe.

The proposed project would temporarily displace recreational activities, primarily walking and jogging, in those areas undergoing construction. The temporary displacement would occur in several phases, with access limited only in those areas involved with the construction. Individual construction phases are anticipated to last between 2-6 months duration.

c. Proposed measures to reduce or control impacts on recreation, including recreation opportunities to be provided by the project or applicant, if any:

Implementation of the proposal over several years would minimize construction-related impacts at any one time. Recreational activities that would be displaced during construction would be rerouted to alternate locations within the Arboretum.

The planned improvements to the botanical collections would allow new uses for formal and informal educational activities, and would provide more trails and paths to new plant collections.

13. <u>Historic and Cultural Preservation</u>

a. Are there any places or objects listed on, or proposed for, national, state, or local preservation registers known to be on or next to the site? If so, generally describe.

There are no places or objects within the project area currently listed on national, state or local preservation registers. The *Washington Park Arboretum Historic Review* (2003) identifies two elements within the project area that appear to meet the Criteria of the Seattle Landmarks Preservation ordinance - the Holmdahl Rockery and Arboretum Drive. Lake Washington Blvd., Azalea Way, the Japanese Garden, the Washington Park Playfield Shelter House and the Caretakers Cottage, are near the project area and also appear to meet the Criteria of the Seattle Landmarks Preservation ordinance.

b. Generally describe any landmarks or evidence of historic, archaeological, scientific, or cultural importance known to be on or next to the site.

The Olmsted Brothers prepared plans for the park and Arboretum, including Lake Washington Boulevard. Portions of the plans were implemented (Lake Washington Boulevard, Arboretum Drive, and Azalea Way) but much of the plan

was not built. Over the years, many forces including the Work Progress Administration era development, the Japanese Garden and collections planted under the direction of the Arboretum Directors have shaped the arboretum. Interlaken Boulevard, also designed by the Olmsted Brothers, is adjacent to the Holly relocation area. The entire Washington Park Arboretum was nominated as an historic landmark several years ago, however the nomination did not result in a designation.

The *Washington Park Arboretum Historic Review* (2003) identifies two elements that would be affected by the proposal and that appear to meet the criteria of the Seattle Landmarks Preservation ordinance: the Holmdahl Rockery and Arboretum Drive. The Holmdahl Rockery is at the south end of the project site, near the intersection of Arboretum Drive and Lake Washington Boulevard. The southern terminus of Arboretum Drive is within the project site. The road continues north through the Arboretum.

c. Proposed measures to reduce or control impacts, if any:

The proposed project does not involve any construction activities that would adversely affect designated landmarks or historic properties. The *Washington Park Arboretum Historic Resources Strategy* (2006) considered the effects of this project on the elements that appeared to meet the criteria of the Seattle Landmarks Preservation ordinance. The project primarily impacts the plant collections, which are managed by the UW. In general, the project consists of in-kind replacement of landscaping. Consequently the projects would not impact the structures described. The Holmdahl Rockery is currently obscured from view by overgrown vegetation. It would be rehabilitated through in-kind replacement of landscaping. No realignment or change in size is proposed for Arboretum Drive. The new 30-car parking lot would be located off the Drive, screened from view. Construction of this lot would allow this project and future projects to remove and consolidate existing spaces that were not part of the original Olmsted plan. The new lots would be better screened from Arboretum Drive. Consolidation of parking along the Drive would have a beneficial impact.

The *Agreement Relating to Arboretum and Botanical Garden in Washington Park* (1936) granted the UW the right to use the park for an arboretum and botanical garden. Since the UW is governed by and accountable to the State appointed Board of Regents, the University uses its policies and procedures when considering impacts to their collections. When the University undertakes deliberate changes or additions to the collections, compliance with the goals of the Washington Park Arboretum Master Plan, the health of the collection and the historic value of the collection are considered. As outlined in *Washington Park Arboretum - Management of the Plant Collection by the University of Washington*, the UW will conduct assessment and analysis. This document states:

> *The University carefully considers the landscape's existing condition, its educational, research and outreach value, and its value as a historic*

resource. Changes to the context and content of the plant collection are analyzed and documented on an ongoing basis. Analysis includes such elements as compliance with the goals of the master plan, and the health and historical value of the plants in the collection. The University uses the analysis to determine the appropriate action such as in-kind replacement of declining vegetation, reproduction, propagation, etc. An inventory and documentation of existing conditions; site analysis and evaluation of integrity and significance, development of a preservation approach and treatment plan, development of a management philosophy and plan as a strategy for ongoing maintenance and preparation of a record of treatment are developed for each major change. Documentation consists of a memorandum that may include photographs and sketches. Documentation will be kept on file for public review at the Arboretum offices. (*excerpt*)

14. Transportation

a. Identify public streets and highways serving the site, and describe the proposed access to the existing street system. Show on site plans, if any.

Immediate access to the Pacific Connections site is provided from East Lake Washington Boulevard via East Madison Street. The site can also be accessed from the north via East Lake Washington Boulevard or Arboretum Drive East. Both Arboretum Drive East and East Lake Washington Boulevard are two-lane roads (see Figure 2). In addition to being accessed from East Lake Washington Boulevard, the Holly relocation area can be accessed from East Interlaken Boulevard and Boyer Ave East.

b. Is site currently served by public transit? If not, what is the approximate distance to the nearest transit stop?

A King County Metro Transit (Metro) bus stop is located within 0.2 mile of the site. Metro bus routes 11 and 84 serve a bus stop at East Madison Street and East Lake Washington Boulevard.

c. How many parking spaces would the completed project have? How many would the project eliminate?

The project would provide 30 new parking spaces in one lot and eliminate a total of 30 parking spaces currently provided in smaller lots dispersed along Arboretum Drive East.

d. Will the proposal require any new roads or streets, or improvements to existing roads or streets, not including driveways? If so, generally describe (indicate whether public or private).

The project would not require any new roadways or improvements to existing roadways.

e. Will the project use (or occur in the immediate vicinity of) water, rail, or air transportation? If so, generally describe.

The project would not use water, rail, or air transportation.

f. How many vehicular trips per day would be generated by the completed project? If known, indicate when peak volumes would occur.

The changes to the collections would enhance education programs currently offered by the UW. Paths would offer new circulation choices to visitors. These improvements are not expected to generate additional trips through the Arboretum. Vehicle traffic generated by these activities would be similar to current traffic patterns.

g. Proposed measures to reduce or control transportation impacts, if any.

Construction activities associated with the Pacific Connections Garden project would require importing a total of approximately 4,000 cubic yards of new material, however implementation of the proposal over several years would minimize construction-related impacts at any one time. While this activity would be noticeable to local drivers and residents, it would occur for a relatively short period (approximately 2-6 months per project) and would not result in significant adverse impacts to traffic operations or capacity on East Lake Washington Boulevard. Construction workers would park their vehicles within the construction site, alleviating potential impacts to parking on residential streets.

The first phase of construction would entail intermittent truck traffic each week for approximately 6 months.

Construction activities at the Holly relocation site would balance cut and fill thereby minimizing the need for trucking. Construction workers would park across the street at Arboretum parking lots during the length of construction (approximately two months). Construction vehicles could not be present in parking lots on the weekends when Arboretum visitors increase.

15. Public Services

a. Would the project result in an increased need for public services (for example: fire protection, police protection, health care, schools, other)? If so, generally describe.

The proposal would not result in an increased need for public services.

b. Proposed measures to reduce or control direct impacts on public services, if any.

Since an increase in the need for public services is not required, mitigation to reduce impacts to public services is not proposed.

16. Utilities

a. Underline utilities currently available at the site: electricity, natural gas, water, refuse service, telephone, sanitary sewer, septic system, other:

b. Describe the utilities that are proposed for the project, the utility providing the service, and the general construction activities on the site or in immediate vicinity which might be needed.

The contractor would locate all existing utilities prior to proceeding with construction activity. Any active underground pipes encountered would be protected. Should undocumented piping or other utilities be encountered, the utility purveyor would be immediately contacted prior to resuming construction activity near the utility. Storm drains would be maintained and protected at catch basins.

Refuse from clearing and excavation would be properly disposed of during construction.

C. SIGNATURE

The above answers are true and complete to the best of my knowledge. I understand the lead agency is relying on them to make its decision.

Signature:	<<*signature on original*>>
Name (print):	David W. Goldberg
Title:	Project Planner
Date Submitted:	April 19, 2007

REFERENCES

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FIGURES

APPENDIX A: PORTICO GROUP SCHEMATIC DESIGN REPORT

APPENDIX B: WASHINGTON PARK ARBORETUM HISTORIC RESOURCES STRATEGY

APPENDIX C: MILBOR-PITA, INC GEOTECHNICAL REPORT

APPENDIX D: SPECIMEN EVALUATION CRITERIA – WASHINGTON PARK ARBORETUM

APPENDIX E: WASHINGTON PARK ARBORETUM COLLECTIONS POLICY

APPENDIX F: SEATTLE DEPARTMENT POLICY & PROCEDURE 060-P5.6.1: TREE MANAGEMENT, MAINTENANCE, PRUNING AND/OR REMOVAL

APPENDIX G: UNIVERSITY OF WASHINGTON BOTANICAL GARDEN PLANTING PROCEDURES

APPENDIX H: CONSTRUCTION ACTIVITY REQUIREMENTS

APPENDIX H – CONSTRUCTION ACTIVITY REQUIREMENTS

The contractor will be required to implement the following measures to ensure minimal environmental impacts throughout the construction duration:

- The contractor will submit a written earthwork plan to the Project Engineer for approval prior to commencing with any mass excavation or filling. The earthwork plan will also include:
  - Sequencing of the earthwork and grading activities;
  - Proposed equipment to be utilized;
  - Surface water diversion and control (description of how existing catch basins at the project site would remain intact measures used to protected them from sediment during construction);
  - Proposed protection methods for excavated stockpiled fill materials and trenches;
  - Soil drying procedures; and
  - Any other information pertinent to the manner in which the earthwork and grading will be performed.
- Best Management Practices (BMPs) will be used to ensure that work conducted in the vicinity of the slope separating the upper and lower terraces does not result in erosion.
- The contractor will obtain the City of Seattle's Department of Construction and Land Use approval that erosion control measures are in place and functioning and will maintain erosion control measures as earthwork and utility construction commences in accordance with City of Seattle standards.
- Soils that are to be reused on site will be stored in a manner as to reduce erosion potential from the stockpile. Protective measures may include, but are not limited to, covering the stockpile with plastic sheeting or the using straw bales or silt fences around pile perimeters.
- Specific quantities of cut and fill have not been established; however, the depths of cut and fill are not expected to exceed 3 feet.
- Surface water controls (i.e. temporary interceptor swales, check dams, silt fences, etc.) will be constructed simultaneously with clearing and grading for project development.
- Surface water and erosion control measures will be relocated or new measures will be installed so as site conditions change, erosion control measures remain in accordance with City of Seattle BMP requirements during the six-month construction period.
- All construction areas inactive for more than seven days during the dry season (April 1st to October 31st) or two days during the wet season (November 1st to March 31st) will be covered.
- Exposed trenches used for the project site drainage system will be kept free from water until the pipe is installed and backfilled. All surface water will be diverted so as not to enter the trenches.

- All storm and underdrain water will be tightlined into an approved storm water drainage system or temporary storage facilities.

- No trucks or equipment will be allowed to drive over the top of trenches except track-equipped machinery utilized in spreading imported granular materials. Backfilled trenches will be staked and "flagged" three feet above grade, a maximum of 30 feet spacing for identity.

- Bedding and backfill material for the storm drainage system will be either select existing site material free of organic matter or other extraneous material or imported granular material as required.

- Mitigation measures to reduce and/or control impacts to air will include:

  - Watering the temporary dirt driveway and construction surfaces to control dust, the use of temporary ground covers, sprinkling the project site with approved dust palliatives, or use of temporary stabilization practices upon completion of grading.

  - Wheel-cleaning stations will be provided to ensure construction vehicle wheels and undercarriages do not carry excess dirt from the site onto adjacent roadways.

  - Streets will be regularly cleaned to ensure excess dust and debris is not transported from the construction-site onto adjacent roads.

  - Construction activities will be planned to minimize exposing areas of earth for extended periods.

  - The contractor will be required to comply with the Puget Sound Clean Air Agency's (PSCAA) Regulation I, Section 9.15 requiring reasonable precautions to avoid dust emissions and Regulation I, Section 9.11 requiring the best available measures to control emissions of odor-bearing contaminants. The contractor will be required to comply with recommendations in the Washington Associated General Contractor brochure "Guide to Handling Fugitive Dust from Construction Projects."

- During construction, BMPs would be implemented to ensure that sediment originating from disturbed soils would be retained within the limits of disturbance. BMP measures may include installation of filter fabric between grate and rings of all catch basin inlets, fabric fencing, barriers, check dams, etc.

- Construction activities will be restricted to hours designated by the Seattle Noise Control Ordinance (SMC 25.08.425). If construction activities exceed permitted noise levels, the District would instruct the contractor to implement measures to reduce noise impacts to comply with the Noise Ordinance, which may include additional muffling of equipment.

- Parent and bus drop off/pick up areas will remain accessible during construction of the improved playfield and at the completion of the project.

- Construction vehicle traffic to and from the site will be minimized during peak traffic hours.

- Construction vehicles will not be parked in traffic lanes.

- Flaggers will be provided as required.
- Barriers, flashing lights, walkways, guardrails, and night lighting will be provided as required for safety and control.
- Firelanes, roadways, and alleys to existing buildings will be maintained, as required by the fire department.
- Walkways leading past the site will remain clear of construction vehicles and debris and will remain safe at all times.